

DOCKET NO. 119464

Serial No. 10/019,161

Amendment in response to Office Action of Jan. 7, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Previously Presented) Process of treating paper or boards comprising using a composition prepared by a process comprising emulsion polymerizing at a temperature ranging from 30 to 100°C one or more monomers in the presence of 30 to 50% by weight, with respect to the one or more monomers, of a surfactant consisting of imidized styrene/maleic anhydride copolymer, the solids content of the dispersion being 20 to 50%, as a paper sizing agent.

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17. (Previously presented) Process of claim 16 wherein no retention agent is used and immediate sizing is obtained.

18. (Previously presented) Process of claim 16 wherein one or more additional sizing agents are used as surface sizing agents.

19. (Previously presented) Process of claim 18 wherein the additional sizing agent(s) are selected from starches.

20. (Currently Amended) Process ~~Composition~~ useful for external sizing or internal sizing of paper or board comprising (A) an aqueous cationic dispersion and (B) starch in a weight ratio of (A) cationic dispersion to (B) starch of about 5:95 to 50:50, the dispersion prepared by a process comprising emulsion polymerizing at a temperature ranging from 30 to 100°C one or more monomers in the presence of 30 to 50% by weight, with respect to the one or more monomers, of a surfactant consisting of imidized styrene/maleic anhydride copolymer, the solids content of the dispersion being 20 to 50%.

21. (New) Process of claim 16 wherein the weight ratio of styrene to maleic anhydride of the copolymer is about 1/1 to 6/1.

22. (New) Process according to claim 21 wherein the ratio is 2/1 to 4/1.

23. (New) Process according to claim 16 wherein the copolymer has a number average molecular weight of about 500 to 20,000.

24. (New) Process according to claim 23 wherein the number average molecular weight is 2000 to 5000.

25. (New) Process according to claim 16 wherein the copolymer has a degree of imidization of about 50 to 100%.

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26. (New) Process according to claim 16 wherein the copolymer is imidized by dimethylpropylene diamine.

27. (New) Process according to claim 16 wherein the monomer(s) are one or more of either

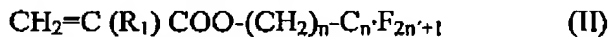
(A) hydrophobic monomers selected from the group consisting of

(i) alkyl (meth)acrylates of the formula (I):



wherein $\text{R}_1 = \text{H}$ or CH_3 , and R_2 is a group having 1 to 22 carbon atoms;

(ii) perfluoroalkyl (meth)acrylates of formula (II):



wherein $\text{R}_1 = \text{H}$ or CH_3 ; $n = 1-4$; and $n' = 1-14$;

(iii) vinyl acetate;

(iv) styrene; and

(v) versatic esters; and

(B) hydrophilic monomers.

28. (New) Process according to claim 27 wherein the monomer(s) comprise one or more hydrophobic monomers selected from the group consisting of methyl acrylate, ethyl acrylate, butyl acrylate, 2-ethylhexyl acrylate, and methyl methacrylate.

29. (New) Process according to claim 16 wherein the dispersion has particles of a size of about 50 to 500 nm.

30. (New) Process according to claim 29 wherein the particle size is about 50 to 300 nm.

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29. (New) Process according to claim 27 wherein the monomer(s) comprise one or more relatively hydrophilic monomers selected from the group consisting of acrylic acid, methacrylic acid, acrylamide, and ethylene glycol (meth)acrylate.

30. (New) Process according to claim 16 wherein the dispensed emulsion polymer has a glass transition temperature of about -70°C to 100°C .

31. (New) Process according to claim 16 wherein the glass transition temperature is about 0 to 50°C .